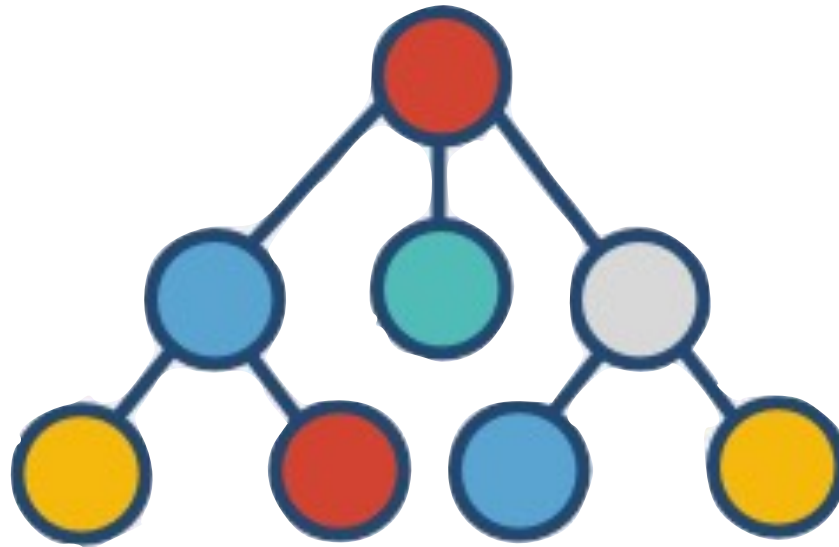


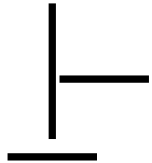
DATA STRUCTURE & ALGORITHMS



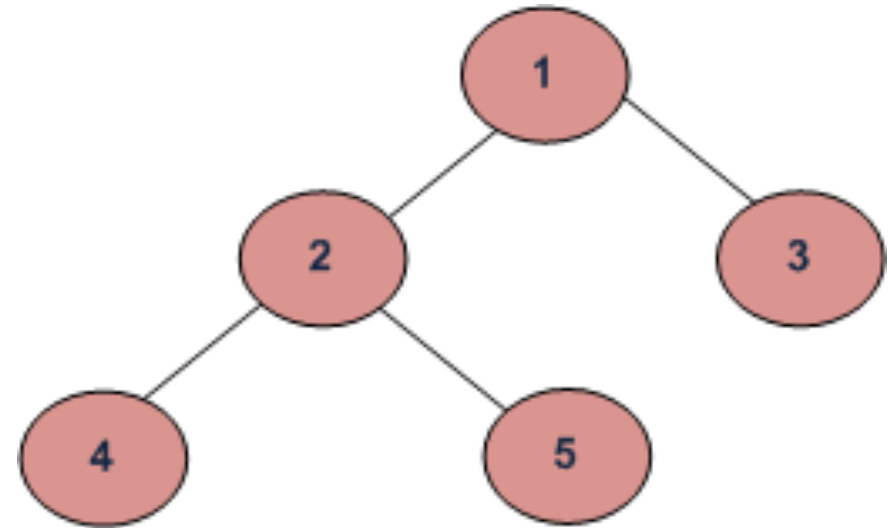
(By Prince Agarwal)
[“HELLO WORLD”]

TREE TRAVERSAL

HOW TO TRAVERSE A TREE



Let's Take an Example



Let's understand, How you read this tree ?

Level Order traversal : 1 2 3 4 5

Inorder (Left, Root, Right) : 4 2 5 1 3

Preorder (Root, Left, Right) : 1 2 4 5 3

Postorder (Left, Right, Root) : 4 5 2 3 1

← Breadth First Traversals

Depth First Traversals
←

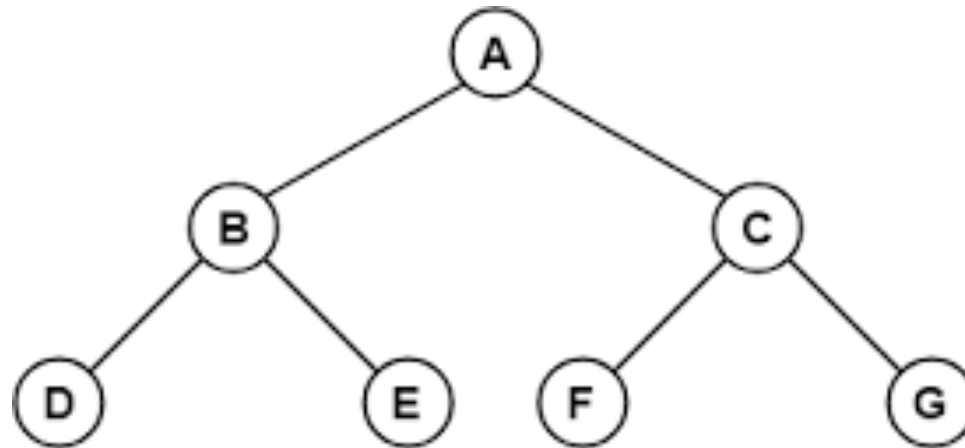
Hello world

TREE TRAVERSAL

INORDER TRAVERSAL. (LEFT. ROOT. RIGHT)

Algorithm Inorder(tree)

1. Traverse the left subtree, i.e., call Inorder(left-subtree)
2. Visit the root.
3. Traverse the right subtree, i.e., call Inorder(right-subtree)



Inorder Traversal : D , B , E , A , F , C , G

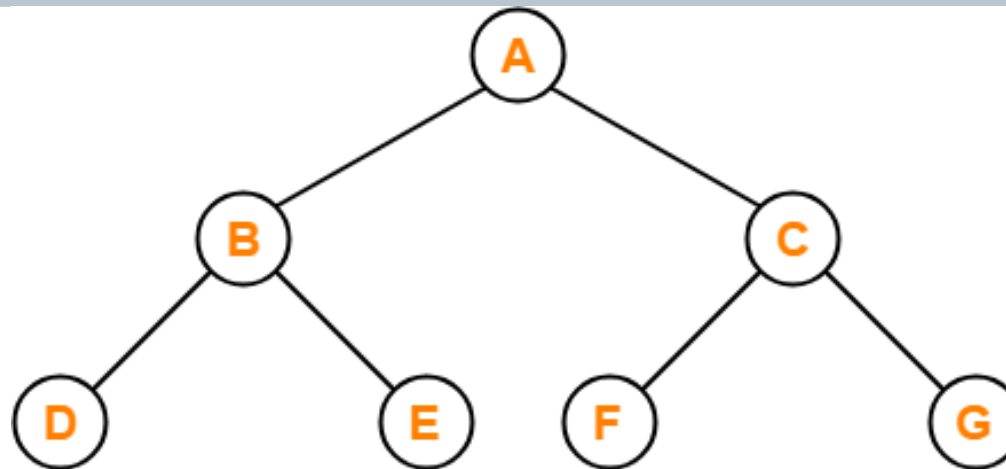
Hello world

TREE TRAVERSAL

PREORDER TRAVERSAL. (ROOT LEFT RIGHT)

Algorithm Preorder(tree)

1. Visit the root.
2. Traverse the left subtree, i.e., call Preorder(left-subtree)
3. Traverse the right subtree, i.e., call Preorder(right-subtree)



Preorder Traversal : A , B , D , E , C , F , G

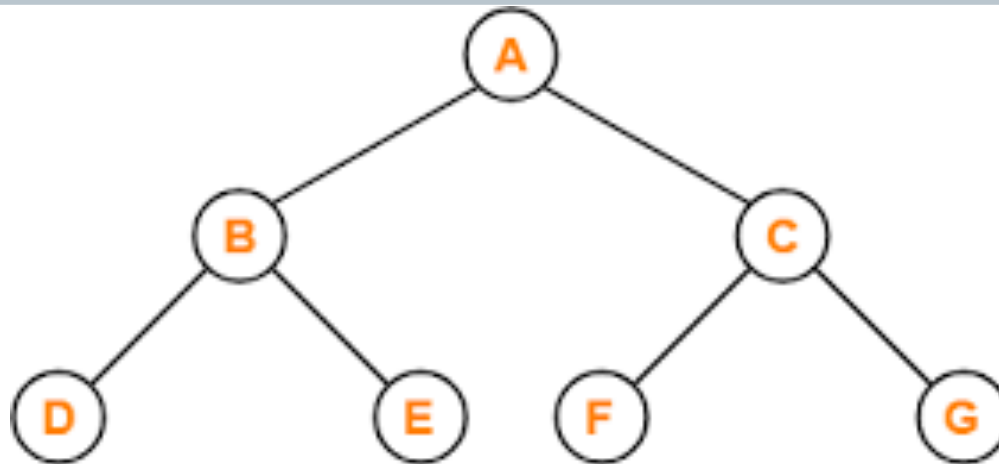
Hello world

TREE TRAVERSAL

■ POSTORDER TRAVERSAL. (LEFT RIGHT ROOT)

Algorithm Postorder(tree)

1. Traverse the left subtree, i.e., call Postorder(left-subtree)
2. Traverse the right subtree, i.e., call Postorder(right-subtree)
3. Visit the root.

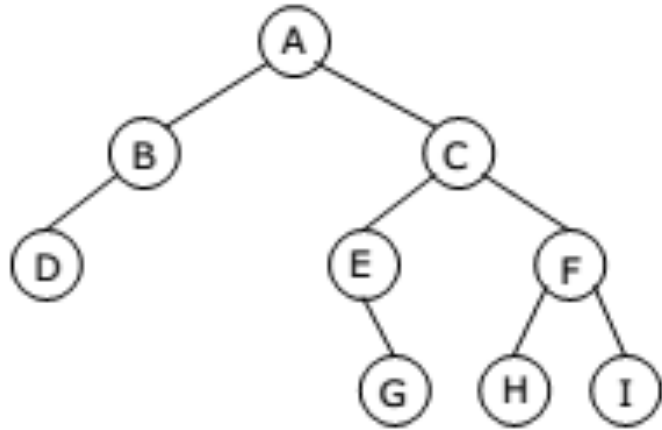


Postorder Traversal : D , E , B , F , G , C , A

Hello world

TREE TRAVERSAL

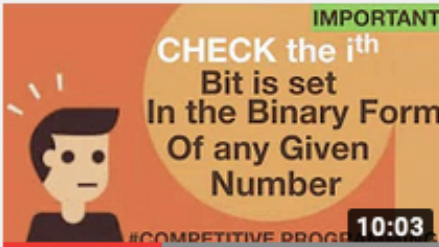




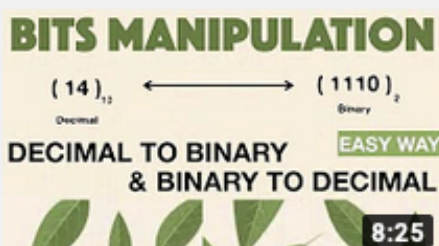
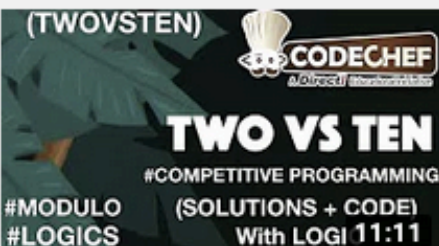








Examples



Binary Tree

- Preorder traversal yields:
A, B, D, C, E, G, F, H, I
- Postorder traversal yields:
D, B, G, E, H, I, F, C, A
- Inorder traversal yields:
D, B, A, E, G, C, H, F, I
- Level order traversal yields:
A, B, C, D, E, F, G, H, I

Pre, Post, Inorder and level order Traversing

| | | | | |
|--|---|--|--|---|
|  <p>CHECK the i^{th} Bit is set In the Binary Form Of any Given Number</p> <p>IMPORTANT</p> <p>#COMPETITIVE PROGRAMMING 10:03</p> |  <p>COUNT THE NUMBER OF ONE'S PRESENT IN BINARY NUMBER</p> <p>VERY EASY</p> <p>#COMPETITIVE PROGRAMMING 13:44</p> |  <p>CHECK GIVEN NUMBER IS POWER OF 2 ?</p> <p>(FULL EXPLANATION WITH CODE)</p> <p>#BITWISE #BINARY</p> <p>15:28</p> |  <p>LEFT SHIFT RIGHT SHIFT BITWISE OPERATOR</p> <p>EASY WAY</p> <p>(PART - 02)</p> <p>15:24</p> |  <p>AND NOT XOR OR BITWISE OPERATOR</p> <p>EASY WAY</p> <p>(PART - 01)</p> <p>13:06</p> |
| <p>Check the i^{th} bit is set, in the binary form of given numbe...</p> <p>1.1K views • 1 year ago</p> | <p>Count the number of one's in binary representation of...</p> <p>1.6K views • 1 year ago</p> | <p>Check a given number is power of 2 Bitwise operato...</p> <p>3.2K views • 1 year ago</p> | <p>Left shift and right shift bitwise operator ...</p> <p>1.4K views • 1 year ago</p> | <p>Bitwise Operators AND NOT OR XOR Competitiv...</p> <p>1.8K views • 1 year ago</p> |
|  <p>BITS MANIPULATION</p> <p>DECIMAL TO BINARY & BINARY TO DECIMAL</p> <p>EASY WAY</p> <p>8:25</p> |  <p>TWO VS TEN</p> <p>#COMPETITIVE PROGRAMMING</p> <p>#MODULO #LOGICS</p> <p>(SOLUTIONS + CODE) With LOGI 11:11</p> |  <p>CHEF AND HIS DAILY ROUTINE</p> <p>(SOLUTIONS + CODE) With LOGI 12:56</p> |  <p>EUCLIDEAN ALGORITHM</p> <p>FINDING GCD OF TWO NUMBERS</p> <p>#COMPETITIVE PROGRAMMING</p> <p>12:31</p> |  <p>SEIVE OF ERATOSTHENES</p> <p>PART - 02 (CODE)</p> <p>#COMPETITIVE PROGRAMMING 12:01</p> |
| <p>Bits Manipulation Decimal to Binary Binary to Decimal...</p> <p>1.5K views • 1 year ago</p> | <p>Program of Two vs Ten Codechef - TWOVSTEN ...</p> <p>1.3K views • 1 year ago</p> | <p>Program of chef and his daily routine - CHEFROUT ...</p> <p>1.7K views • 1 year ago</p> | <p>Euclidean algorithm for finding GCD of 2 numbers ...</p> <p>2K views • 1 year ago</p> | <p>Sieve of Eratosthenes -part 2 Competitive programming...</p> <p>2.2K views • 1 year ago</p> |
|  <p>SEIVE OF ERATOSTHENES</p> <p>PART - 01 (LOGIC)</p> <p>#COMPETITIVE PROGRAMMING 8:38</p> |  <p>CONCEPT OF PRIME NUMBERS</p> <p>#COMPETITIVE PROGRAMMING 13:38</p> |  <p>USE OF MEMSET()</p> <p>#COMPETITIVE PROGRAMMING 12:00</p> |  <p>FANCY QUOTES</p> <p>#COMPETITIVE PROGRAMMING (SOLUTIONS + CODE) With LOGI 15:46</p> |  <p>STUDYING ALPHABET</p> <p>#COMPETITIVE PROGRAMMING (SOLUTIONS + CODE) With LOGIC 24:28</p> |
| <p>Sieve of Eratosthenes -part 1 Competitive programming...</p> <p>3.4K views • 1 year ago</p> | <p>Program and concept of prime numbers. ...</p> <p>2.1K views • 1 year ago</p> | <p>memset() function in C/C++ and its syntax. Competitiv...</p> <p>4.3K views • 1 year ago</p> | <p>problem of Fancy Quotes getline() in strings --FANCY...</p> <p>2.1K views • 1 year ago</p> | <p>Concept of Handling the String related problems -...</p> <p>3.4K views • 1 year ago</p> |

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